PM2.5 Continuous FEMs

Moderator: Darren Palmer

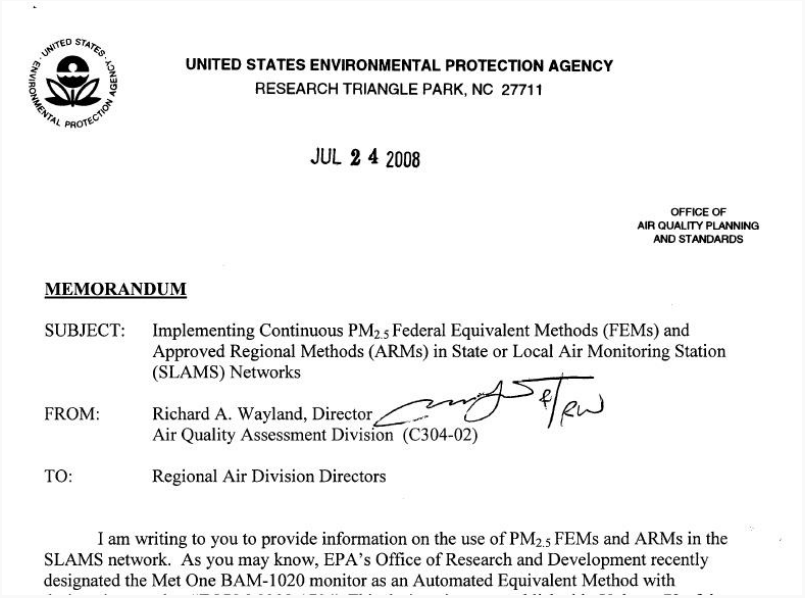
PM2.5 Continuous FEM Session

- **National PM2.5 FEM Assessment**
  - Lew Weinstock, EPA OAQPS
- **PM2.5 FEM Implementation**
  - Donnie Redmond, North Carolina DENR
  - Winston Davis, Palm Beach County, FL
- **Data Reporting**
  - Darren Palmer

PM2.5 FEM List

Method Description	Method Code	Date
Met One BAM-1020	170	3/12/08
Thermo 8500C FDMS	181	6/17/09
Thermo 1405-DF FDMS	182	6/17/09
Thermo 5014i or FH62C14-DHS	183	6/17/09
Thermo 5030 SHARP	184	6/17/09
Grimm Model EDM 180	195	3/22/11

PM2.5 FEM Use in SLAMS Networks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

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OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

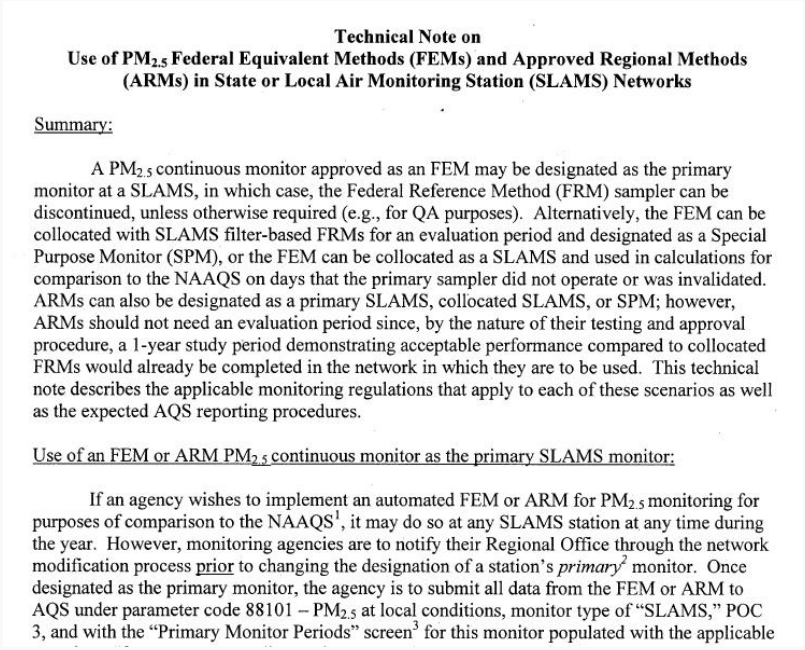
MEMORANDUM

SUBJECT: Implementing Continuous $PM_{2.5}$ Federal Equivalent Methods (FEMs) and Approved Regional Methods (ARMs) in State or Local Air Monitoring Station (SLAMS) Networks

FROM: Richard A. Wayland, Director
Air Quality Assessment Division (C304-02)

TO: Regional Air Division Directors

I am writing to you to provide information on the use of $PM_{2.5}$ FEMs and ARMs in the SLAMS network. As you may know, EPA's Office of Research and Development recently designated the Met One BAM-1020 monitor as an Automated Equivalent Method with



Technical Note on
Use of $PM_{2.5}$ Federal Equivalent Methods (FEMs) and Approved Regional Methods (ARMs) in State or Local Air Monitoring Station (SLAMS) Networks

Summary:

A $PM_{2.5}$ continuous monitor approved as an FEM may be designated as the primary monitor at a SLAMS, in which case, the Federal Reference Method (FRM) sampler can be discontinued, unless otherwise required (e.g., for QA purposes). Alternatively, the FEM can be collocated with SLAMS filter-based FRMs for an evaluation period and designated as a Special Purpose Monitor (SPM), or the FEM can be collocated as a SLAMS and used in calculations for comparison to the NAAQS on days that the primary sampler did not operate or was invalidated. ARMs can also be designated as a primary SLAMS, collocated SLAMS, or SPM; however, ARMs should not need an evaluation period since, by the nature of their testing and approval procedure, a 1-year study period demonstrating acceptable performance compared to collocated FRMs would already be completed in the network in which they are to be used. This technical note describes the applicable monitoring regulations that apply to each of these scenarios as well as the expected AQS reporting procedures.

Use of an FEM or ARM $PM_{2.5}$ continuous monitor as the primary SLAMS monitor:

If an agency wishes to implement an automated FEM or ARM for $PM_{2.5}$ monitoring for purposes of comparison to the NAAQS[1], it may do so at any SLAMS station at any time during the year. However, monitoring agencies are to notify their Regional Office through the network modification process prior to changing the designation of a station's *primary*[2] monitor. Once designated as the primary monitor, the agency is to submit all data from the FEM or ARM to AQS under parameter code 88101 – $PM_{2.5}$ at local conditions, monitor type of "SLAMS," POC 3, and with the "Primary Monitor Periods" screen[3] for this monitor populated with the applicable

PM2.5 FEM Use in SLAMS Networks

- Evaluation Period
  - Several months up to two years
  - SPM (doesn't count for minimum required)

- If req'd to collocate for QA and Continuous, what's the most # of monitors you would have? *Ex. Table A-3 Part 58 App. A*

TABLE A–3 OF APPENDIX A TO PART 58.—SUMMARY OF $PM_{2.5}$ NUMBER AND TYPE OF COLLOCATION (15% COLLOCATION REQUIREMENT) NEEDED AS AN EXAMPLE OF A PRIMARY QUALITY ASSURANCE ORGANIZATION THAT HAS 54 MONITORS AND PROCURED FRMS AND THREE OTHER EQUIVALENT METHOD TYPES

Primary sampler method designation	Total no. of monitors	Total no. collocated	No. of collocated FRM	No. of collocated monitors of same method designation as primary
FRM	20	3	3	n/a
FEM (A)	20	3	2	1
FEM (C)	2	1	1	0
FEM (D)	12	2	1	1

PM2.5 FEM Data Reporting

- Just put the data in AQS under 88101

THANKS!